

SYNOPSIS OF *AGERATELLA* (ASTERACEAE, EUPATORIEAE)

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ABSTRACT

The genus *Ageratella* is confined to México and is treated as monotypic, its sole species, *A. microphylla*, comprising of three intergrading varieties: var. *microphylla*, largely confined to the border regions of southern Sinaloa-Durango and closely adjacent Nayarit and Jalisco; var. *palmeri*, largely confined to central Jalisco; and a newly described var. *sonorana* B.L. Turner, largely confined to southern Sonora and northern Sinaloa. A key is constructed to these taxa, along with a map showing their distribution.

KEY WORDS: Asteraceae, Eupatorieae, *Ageratella*, México

Gray first proposed the genus *Ageratella* without a formal description, basing this upon two plants which he regarded as varieties of a single species: *A. microphylla* (Sch.-Bip.) A. Gray ex S. Wats. var. *seemannii* (Benth. & Hook. f.) A. Gray and *A. m.* var. *palmeri* A. Gray ex S. Wats. The type of *Ageratella* is based upon *Ageratum microphyllum* Sch.-Bip., which was first collected by Seemann in Sinaloa or Durango in the mid 1800's while traversing the Sierra Madre Occidental along the road from Mazatlán, Sinaloa, to Cd. Durango (cf. Turner 1992).

Robinson (1905) subsequently provided a formal description of the genus *Ageratella*, treating the two taxa proposed by Gray as distinct species, *A. microphyllum* (Sch.-Bip.) A. Gray ex S. Wats and *A. palmeri* (A. Gray ex S. Wats.) B.L. Rob. This treatment was followed by Blake in his treatment of the Compositae for the *Trees and Shrubs of México*. Robinson also briefly reviewed the history of *Ageratella*, providing a complete synonymy. McVaugh (1971), however, treated the genus as monotypic, not recognizing Gray's varieties, noting that "various intermediates can be demonstrated" between these two taxa. McVaugh (1984) maintained this stance in his *Flora Novo-Galiciana*.

In my forthcoming treatment of *Ageratella* for the Asteraceae of México (Turner & Nesom, in prep.) I intend to recognize the genus as monotypic, but find it expedient and meaningful to recognize three infraspecific morphogeographical taxa.

AGERATELLA A. Gray

Suffruticose perennial herbs 30-60 cm high. Stems brittle, stiffly erect, puberulent, arising from stout rhizomes, forming clumps. Leaves opposite below, alternate above, often markedly so, 1.5-3.0 cm long, 0.1-1.5 cm wide; petioles indistinct, 1-3 mm long; blades flabellate, ovate to oblanceolate in outline, entire to

crenate or rarely deeply dissected, 3-nervate from near the base, puberulent and punctate-glandular beneath. Heads arranged axillary and sessile along the stem, or in both axillary and terminal, often lax, corymbose panicles. Involucres cylindrical to turbinate, 4-6 seriate, graduate; bracts 2-4 nervate, scarious along the margins. Receptacle convex, naked. Florets 6-18 per head; corollas whitish, tubular, glabrous above, atomiferous-glandular below, the lobes 5, acute. Anthers included, the appendages vestigial. Style branches linear-oblancoolate, smooth. Achenes narrowly prismatic, 5-ribbed; pappus of 5 scales, the mid-ribs extending as pronounced barbellate bristles.

Type species, *Ageratella microphylla* (Sch.-Bip.) A. Gray ex S. Wats.

AGERATELLA MICROPHYLLA (Sch.-Bip.) A. Gray ex S. Wats., Proc. Amer. Acad. Arts 22:419. 1887.

A single variable species, as described for the genus above.

Three regional varieties of this species are recognized, as follows:

1. All of the heads on ultimate peduncles 3-10 mm long; southern Sonora, northern Sinaloa.....var. *sonorana*
1. Most or many of the heads sessile or subsessile; southern Sinaloa, Durango, Nayarit, Jalisco.....(2)
 2. Leaves flabellate to obovate in outline, broadest at or above the middle; border regions of southern Sinaloa-Durango and closely adjacent Nayarit and Jalisco.var. *microphylla*
 2. Leaves linear to ovate in outline; central Jalisco.....var. *palmeri*

AGERATELLA MICROPHYLLA (Sch.-Bip.) A. Gray ex S. Wats. var. *MICROPHYLLA* BASIONYM: *Ageratum microphyllum* Sch.-Bip in Seemann, Bot. Voy. Herald 298. 1856. *Ageratella microphyllum* (Sch.-Bip. in Seemann) A. Gray ex S. Wats., Proc. Amer. Acad. Arts 22:419. 1887.

≡ *Decachaeta seemannii* Benth. & Hook. f., Gen. Pl. 2:239. 1873. *Ageratella microphylla* (Sch.-Bip.) A. Gray ex S. Wats. var. *seemannii* (Benth. & Hook. f.) A. Gray, Proc. Amer. Acad. Arts 22:419. 1887. TYPE: MEXICO. Sinaloa(?): "Sierra Madre", 1838-1839, Seemann 2043 (HOLOTYPE: K!; Isotype: GH!). McVaugh (1984) thought the type to have been collected in Sinaloa, near Cerro del Pinal, which is probably the case since the species has been collected several times (TEX) in the vicinity of this locality, but not as yet in the state of Durango along the route (mainly present day Highway 40 between Mazatlán and Cd. Durango) which Seemann took to cross the "Sierra Madres" (cf. Turner 1992).

This, the most common populational form of the species, is easily recognized by its broadly obovate to flabellate leaves. It is largely confined to pine-oak woodlands to the areas east of Mazatlán, Sinaloa and southwards into Durango, Nayarit, and northern Jalisco.

REPRESENTATIVE SPECIMENS: MEXICO. Durango: Mpio. Mezquital, 45 mi WNW of Huejuquilla El Alto [Jalisco], 1830-2150 m, 23 Oct 1893, *Breedlove 59251* (TEX). Jalisco: Mpio. Bolaños, 11.5 km W of Bolaños on the road to

Tuxpan, 1680 m, 19 Oct 1983, *Lott 2051* (TEX). Nayarit: Mpio. La Yesca, 3 km N of Amatlán de Jora, 1600 m, 15 Oct 1990, *Flores M. 2209* (TEX). Sinaloa: Mpio. de Concordia, ca. 60 km NE of Villa Unión, ca. 1300 m, 4 Nov 1980, *Cronquist 11763* (TEX).

AGERATELLA MICROPHYLLA (Sch.-Bip.) A. Gray *ex* S. Wats. var. PALMERI A. Gray *ex* S. Wats., Proc. Amer. Acad. Arts 22:419. 1887. *Ageratella palmeri* (A. Gray) B.L. Rob., Proc. Amer. Acad. Arts 41:272. 1905. TYPE: MEXICO. Jalisco: Río Blanco, 1886, *Palmer 537* (HOLOTYPE: GH!).
Stevia bisecta M.E. Jones, Extr. Contr. West. Bot. 18:70. 1933. TYPE: MEXICO. Jalisco. Orendain, 27 Nov 1930, *M.E. Jones 27800* (HOLOTYPE: POM).

This variety is well described by Robinson (1905) and is confined to the more inland areas of Jalisco, mainly in the vicinity of Guadalajara. Nearly all of the ten or more separate collections (LL, TEX) from this region display linear leaves and semipaniculate capitulescences, although the occasional "intermediate" between var. *microphylla* and var. *palmeri* can be noted (*e.g.*, 4.5 mi NNE of Talpa de Allende, *McVaugh 20336* [TEX]).

AGERATELLA MICROPHYLLA (Sch.-Bip.) A. Gray *ex* S. Wats. var. SONORANA B.L. Turner, *var. nov.* TYPE: MEXICO. Sonora: Río Mayo, Curohui, 4 Nov 1935, *Howard Scott Gentry 2149* (HOLOTYPE: TEX!; Isotype: ARIZ).

Differt a *Ageratellae microphyllae* (Sch.-Bip.) A. Gray *ex* S. Wats. var. *microphyllae* foliis midcaulinis plerumque anguste linearibus (vs. late flabellatis vel obovatis) et capitulescentibus corymbosi-paniculatis pedunculis ultimis plerumque 8-18 mm longis (vs. plerumque sessilibus vel 1-6 mm longis).

Differing from *Ageratella microphylla* var. *microphylla* in having midstem leaves mostly narrowly linear (vs. broadly flabellate to obovate) and capitulescences corymbose-paniculate, the ultimate peduncles mostly 8-18 mm long (vs. mostly sessile or 1-6 mm long).

ADDITIONAL SPECIMEN EXAMINED: MEXICO. SINALOA: Mpio. Surutato, 1600 m, 8 Dec 1987, *Rito Vega 2477* (TEX).

This taxon is distinguished by its linear leaves and elongate ultimate peduncles, combining features of varieties *microphylla* and *palmeri*, but vegetatively closer to the latter. It is seemingly confined to the Pacific coast ranges of southern Sonora and northern Sinaloa, where it reportedly occurs in oak (*Gentry 2149*) or pine (*Vega 2477*) forests.

The distribution of these three varieties is shown in Figure 1, which is based upon collections at LL, TEX. Finally, it should be noted that several excellent line drawings of the species have been made, as follows: var. *microphylla* (Hemsley, Biol. Centr. Amer., t. 42. 1880.); and var. *palmeri* (McVaugh 1984, Figure 2; King & Robinson



Figure 1. Distribution of the varieties of *Ageratella microphylla*.

1987, Plate 86 -- the latter being an atypical element tending towards var. *microphylla*).

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LITERATURE CITED

- King, R. & H. Robinson. 1987. *Ageratella*, in Monographs Syst. Bot. Missouri Bot. Gard. 22:233.
- McVaugh, R. 1971. *Ageratella microphylla*, in *Rhodora* 74:497-498.
- McVaugh, R.. 1984. *Ageratella*, in *Fl. Novo-Galiciana* 12:45-47. University of Michigan Press, Ann Arbor, Michigan.
- Robinson, B.L. 1905. *Ageratella*, in *Proc. Amer. Acad. Arts* 41:271-272.
- Turner, B.L. 1992. New species of *Wedelia* (Asteraceae, Heliantheae) from México and critical assessment of previously described taxa. *Phytologia* 72:115-126.